MODIS IOT Weekly Report
Mission Operations Days: 2000/002 to 2000/008
January 2, 2000 15:00:00 EST to January 8, 2000 14:59:59 EST

Terra Spacecraft and MODIS Instrument Status:

Terra (AM-1) is in Normal Mode
Terra (AM-1) has an anomaly with the High Gain Antenna
MODIS is in Standby Mode
MODIS has no known Anomalies

Blackbody		Off	Nominal
Calibration Electronics		Off	Nominal
Control Processor		B On; A off	Nominal
Door:	Nadir	Unlatched, closed	Nominal
	Space View	Unlatched, at Outgas	Nominal
	Solar Diffuser	Unlatched, closed	Nominal
FDDI Formatter		Off	Nominal
FIFO Memory		Off	Nominal
Format Processor		Off	Nominal
PC FPA		Off	Nominal
Power Supply:	1	Off	Nominal
	2	On	Nominal
PV FPAs:	VIS	Off	Nominal
	NIR	Off	Nominal
	SMIR	Off	Nominal
	LWIR	Off	Nominal
Radiative Cooler:			
	Outgas Heaters	On	Nominal
	LWIR FPA Heater	Off	Nominal
	SMIR FPA Heater	Off	Nominal
Scan Assembly		Off	Nominal
SDSM		Off	Nominal
SRCA		Off	Nominal
Survival Heaters:	PS1	Enabled	Nominal
	PS2	Enabled	Nominal

Flight Software	Rev BD	Nominal
Inhibit Ids Set	None	Nominal
TMONs enabled	None	Nominal

This Week's Completed MODIS Activities:

2000/003 15:25 EST	Powered on MODIS using PS2 and CPB
2000/003 16:19	Unlatched the Space View Door
2000/003 17:05	Moved the Space View Door out 750 steps
2000/003 17:08	Moved the Space View Door to the outgas position

2000/003 17:12	Turned on the cold stage outgas heater
2000/003 17:50	Turned on the intermediate stage outgas heater
2000/003 19:30	Turned on the outer stage outgas heater
2000/004 12:06	Unlatched the Solar Diffuser Door
2000/004 16:07	Unlatched the Nadir Aperture Door

This Week's Scheduled MODIS Activities Not Completed:

None

Upcoming MODIS Events:

None

MODIS Anomalies:

As soon as MODIS was powered on, all twelve Blackbody passive temperatures started, and remained, below their yellow limit values. This does not pose a health and safety risk to MODIS, therefore, to prevent steady-state alarm conditions, the limits for these sensors have been disabled until MODIS transitions into Science Mode.

The formatter engine temperatures (A and B) have dipped below their yellow limits on several occasions. No health and safety risk has yet been identified. These temperatures are varying cyclically with the MEM survival heater duty cycle.

A red low limit violation was registered for the MOD_VR_PS2_P88V_A1ME mnemonic shortly after turning on the first outgas heater (cold stage) on January 3rd. This power supply voltage feed is used only to operate the outgas heaters. Two yellow limit violations were recorded for the same telemetry mnemonic on 2000/007 and 2000/008. As a result of these yellow limit violations, the red low limit for this mnemonic has been changed from 77V to 65V to prevent an unwarranted shutdown of MODIS. The relaxed red limit will also allow the IOT to assess any future anomalies and take action in a manner more suitable to the occasion (i.e. turning off one outgas heater instead of the entire instrument).

General Instrument Comments:

MODIS is currently in Standby Mode. All three MODIS doors have successfully been unlatched, with the SDD and NAD being unlatched earlier than originally planned. Due to the additional heat provided by the outgas heaters and MEM electronics, the survival heater cycle has decreased to approximately 40%. MODIS began outgassing on January 3rd, 2000 and is anticipated to actively outgas for 14 days.

MODIS Telemetry Trends:

The outgas heater stage temperatures are oscillating as expected under thermostatic control. The 88V power supply feed is fluctuating, generally between 82 and 90 Volts, as each of the three outgas heaters power on and turn off. Similar fluctuations are seen for the S/C power system current feed to MODIS as the outgas heaters toggle. The A and B side formatter engine temperatures are oscillating in conjunction with the MEM survival heater duty cycle and have been exceeding their yellow low limits on a predictable basis.

Non-MODIS Significant Events:

The spacecraft 1 and 5 pound thrusters have been tested and small yaw maneuvers have been completed. X and Ku band dumps have been verified.

As a precaution from doing permanent damage to the High Gain Antenna (HGA) with regards to particle radiation events experienced in the SAA, HGA operations were suspended indefinitely until a safe operation scheme can be devised. Orbit adjustment burns have been postponed slightly and are anticipated to be completed using the omni antennas for the command and telemetry paths. HGA recovery options are currently being developed and tested.

ASTER has turned on its main power supply and two of its three instruments.

Limited Life Item Status:

One door movement was logged for the space view door during this past week of operations. All limited life items are well within lifetime ranges, although precise statistics for each item are still pending.